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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,574	05/14/2004	Paul A. Manfredi	BUR920030148US1	3573

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EXAMINER	
KARLS, SHAY LYNN	
ART UNIT	PAPER NUMBER
3723	

MAIL DATE	DELIVERY MODE
05/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/709,574	MANFREDI, PAUL A.	
	Examiner	Art Unit	
	Shay L. Karls	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4,5,7,10,14,17 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4,5,7,10,14,17 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/24/08 (with the RCE dated 4/23/08) has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 7, 10, 14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahten (USPN 6182323) in view of Hawn (IBM Disclosure Bulletin) as evidenced by Lur et al. (USPN 6743721) and ConductivePlastics.com.

With regards to claim 17, Bahten teaches a system for removing contaminants from a surface of a wafer. The apparatus comprises a wafer-cleaning region (figure 4) configured to receive a wafer during cleaning. The apparatus further comprises a wafer-cleaning member (402-405) designed to remove contaminants from a surface of the wafer (abstract). The cleaning member is a brush made from polyurethane foam. The brush is then considered to be electrically conductive since polyurethane foam is a known conductive material as evidenced by conductiveplastics.com.

With regards to claim 7, the brush roller is made from foam cleaning portion (abstract).

With regards to claim 10, the method of removing contaminants from a surface of a wafer comprises the steps of cleaning the surface with a cleaning member (402-405).

With regards to claim 14, the method further comprises contacting the surface with an electrically conductive brush having a non-filamentous cleaning surface (made from foam).

With regards to claim 18, the cleaning member further comprises a non-filamentous cleaning surface (made from foam).

Bahten teaches all the essential elements of the claimed invention however fails to teach electrically grounding the apparatus (claims 10 and 17). Hawn teaches a means for discharging unwanted potentials on a dielectric surface. The reference teaches grounding a conductive brush which contacts the dielectric surface and as evidenced by Lur, a wafer comprises dielectric surfaces and silicon surfaces (col. 1, lines 42-46). Thus Hawn's device could be used to

discharge the dielectric surface of a wafer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to electrically ground Bahten's brush which is made from an electrically conductive foam as taught by Hawn. Grounding the brush will allow the brush to remove unwanted electrostatic charges the wafer without damaging the wafer.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahten (USPN 6182323) in view of Hawn (IBM Disclosure Bulletin) as evidenced by Lur (USPN 6743721) and ConductivePlastics.com as applied to claim 18 above and further in view of Kitamura ('879).

Bahten in view of Hawn and Lur teach all the essential elements of the claimed invention however fail to teach that the brush comprises a polymer filled with an electrically-conductive material. Kitamura teaches a roller having fibers filled with an electrically conductive material (col. 5, lines 27-31 state that the fibers of the roller are made from polypropylene nylon or polyester filled with a conductive material such as carbon). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the brush of Bahten so that the foam is filled with a conductive material such as carbon as taught by Kitamura so that the brush will be capable of effectively removing charges from surface of the wafer and so that the brush will provide an efficient cleaning operation (col. 5, lines 36-42).

Additionally, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use perfluroralkoxyalkane as the polymer for the brush, since it has been held within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice. *In re Leshin, 125 USPQ 416.*

Response to Arguments

Applicant's arguments filed 3/24/08 (with RCE filed 4/23/08 have been fully considered but they are not persuasive.

The applicant argues that the conductiveplastics.com website does not teach a foam that could be used in place of the high-purity foam of Bahten. The applicant further states that the conductiveplastics.com foam must have impurities which make it conductive. In response, the conductiveplastics.com website makes no mention of their foam containing impurities. The website actually remarks that their foam is known for its cleanliness. There is no discussion on the website as to how clean the foam is however, since there is also no evidence of any impurities present in the foam, it is interpreted that the foam has none. This leads one of skill in the art to note that the polyurethane material alone is what makes the foam electrically conductive. Thus, since Bahten teaches a brush made from a polyurethane foam and conductiveplastics.com teaches that polyurethane foam is electrically conductive, it can be concluded that the polyurethane foam of Bahten is also electrically conductive. Lastly, it is noted that the rejection is not to replace the foam material of Bahten with the foam material of conductiveplastics.com, but only to show that the polyurethane foam of Bahten is conductive as evidenced by conductiveplastics.com.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shay L. Karls whose telephone number is 571-272-1268. The examiner can normally be reached on 7:00-4:30 M-Th, alternating F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shay L Karls/
Primary Examiner, Art Unit 3723